

Title (en)

Copolymers, their mixtures with polymers of esters of (meth)acrylic acid, and their use in improving the flowability of crude oil at a low temperature.

Title (de)

Neue Copolymerne, deren Mischungen mit Poly(meth)acrylsäureestern und deren Verwendung zur Verbesserung der Fliessfähigkeit von Rohölen in der Kälte.

Title (fr)

Copolymère, leur mélanges avec des polymères d'esters d'acide (méth)acrylique et leur utilisation pour modifier la fluidité d'huile brute à température basse.

Publication

**EP 0376138 B1 19940119 (DE)**

Application

**EP 89123521 A 19891220**

Priority

DE 3843922 A 19881224

Abstract (en)

[origin: EP0376138A2] Copolymers comprising from 50 to 99.9 % by weight of a C14-C22-alkyl (meth)acrylate and from 50 to 0.1 % by weight of a comonomer of the formula I <IMAGE> where R1 is hydrogen or methyl and R2 is a group of the formula <IMAGE> R3 is C1-C80-alkyl, C2-C80-alkenyl, C5- or C6-cycloalkyl or cycloalkenyl, which may be substituted by alkyl groups, aralkyl, alkaryl or the radical of a dimeric fatty acid, maleic acid, succinic acid or a C6-C22-alkenylsuccinic acid, R4 is C1-C80-alkyl, C1-C80-alkenyl, C5- or C6-cycloalkyl or cycloalkenyl, which may be substituted by alkyl groups, aralkyl or alkaryl, R5 is C6-C20-alkyl, m is 2 or 3, n is a number from 1 to 30, and x is a number from 2 to 20, and mixtures of these copolymers with poly(C14-C22-alkyl (meth)acrylates) are highly suitable for improving the flowability of crude oils. Such copolymers also include those which contain a comonomer of the formula 1 in which R2 is additionally a group of the formula <IMAGE>

IPC 1-7

**C08F 220/18; C10L 1/18; C10L 1/20; C10L 1/22**

IPC 8 full level

**C08F 220/18 (2006.01); C10L 1/14 (2006.01); C10L 1/18 (2006.01); C10L 1/195 (2006.01); C10L 1/196 (2006.01); C10L 1/20 (2006.01); C10L 1/22 (2006.01)**

CPC (source: EP)

**C08F 220/1818 (2020.02); C10L 1/146 (2013.01); C10L 1/195 (2013.01); C10L 1/1963 (2013.01); C10L 1/1955 (2013.01); C10L 1/1966 (2013.01); C10L 1/1973 (2013.01); C10L 1/208 (2013.01); C10L 1/2366 (2013.01); C10L 1/2368 (2013.01)**

Cited by

EP3798261A1; WO2021058228A1; EP0493846A1; AU648844B2; WO2007049028A3

Designated contracting state (EPC)

DE

DOCDB simple family (publication)

**EP 0376138 A2 19900704; EP 0376138 A3 19901031; EP 0376138 B1 19940119; CA 2006420 A1 19900624; DE 3843922 A1 19900628; DE 58906771 D1 19940303; NO 895218 D0 19891222; NO 895218 L 19900625**

DOCDB simple family (application)

**EP 89123521 A 19891220; CA 2006420 A 19891221; DE 3843922 A 19881224; DE 58906771 T 19891220; NO 895218 A 19891222**